

EURO-ZONE DEBT CRISIS

by

REMINGTON JAMES REBSTOCK

B.S., Kansas State University, 2011

A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTER OF ARTS

Department of Economics
College of Arts and Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2013

Approved by:

Major Professor
Dr. Lloyd B. Thomas Jr.

Abstract

The European sovereign debt crisis has had a profound impact on the rest of the world. The “debt crisis” refers to the rapid accumulation of debt within some struggling euro-zone countries. This debt accumulation has resulted in a variety of financial bailouts made to various countries within the European Union and a debt default by the country of Greece. The results of this crisis have changed the way of life for many living within the struggling economies. Division within the euro zone, on both policy and ideology, has begged the question of whether the euro will be able to survive in the long term. The purpose of this report is to investigate the buildup and evolution of this crisis, as well as to highlight various responses and proposed solutions of the future.

Table of Contents

List of Figures	iv
List of Tables	v
Chapter 1 - Introduction.....	1
Chapter 2 - Crisis Timeline*	7
--2009--	7
--2010--	8
--2011--	9
--2012--	13
--2013--	19
Chapter 3 - Major Causes	22
Chapter 4 - Analysis.....	25
Chapter 5 - Solutions	35
Chapter 6 - Conclusion	37
Bibliography	39

List of Figures

Figure 1	21
Figure 2	23
Figure 3	27
Figure 4	29
Figure 5	31
Figure 6	33

List of Tables

Table 1	22
---------------	----

Chapter 1 - Introduction

European Financial Crisis*

The European Union, currently consisting of twenty-eight member nations, has been battling a financial crisis that has been one of the main focuses of the entire world. This financial crisis has had profound implications for the rest of the world. The crisis essentially stems from the issue of managing multiple countries, each having a variety of unique circumstances, using uniform policy.

The European Union originated from an idea that was aimed at eliminating the frequent wars between neighboring countries which culminated in World War II. The vision of the European Union's founding fathers was simple: a peaceful, united, and prosperous Europe. This grand idea was originally proposed on September 19, 1946 by Winston Churchill in a speech at Zurich University. In December of 1946, the European Federalists Union was created in Paris, France. Then in 1947, The Joint International Committee for European Unity was created to promote intergovernmental cooperation between the European countries. In a landmark meeting in May of 1948, over eight hundred delegates from Europe, along with observers from the United States and Canada, held a five-day meeting in The Hague, Netherlands. The meetings, chaired by Winston Churchill, resulted in an attempt to unify the economic, political, and monetary unions of Europe. This call to action resulted in The European Movement, formally created on October 25, 1948. Still in existence today, The European Movement consists of 41 European countries and promotes integration and cooperation.

*Information for the introduction is excerpted from The European Union's website (European Union, 2013)

The process towards integration continued when the European Coal and Steel Community began to unite. With implementation of the Schuman plan in April of 1951, six countries placed two of their top industries under common management. The six countries, Germany, France, Italy, the Netherlands, Belgium, and Luxembourg, agreed to this plan so that none could produce weapons of war to use against the others. More integration took place with the signing of The Treaty of Rome in March of 1957. The treaty created four institutions: a Council of Ministers, a Commission, a European Parliament, and a Court of Justice. These four institutions were developed to legislate, generate new ideas, and to resolve disputes among European nations. The treaty was also the founding treaty of the European Economic Community (“EEC”). The EEC created a common market among member nations (originally the same nations that created the European Coal and Steel Community). This community worked towards the goals of free movement of labor and capital, the abolition of trusts and cartels, and the development of joint and reciprocal policies on labor, social welfare, agriculture, transport, and foreign trade.

One of the earliest accomplishments of the EEC was the establishment of uniform price levels on agricultural products among member nations in 1962. Later, in 1968, internal tariffs on trade among member nations were eliminated and the common external tariffs of the member countries became fixed.

By 1970, trade between member countries of the EEC had increased fivefold. Membership in the EEC expanded in January of 1973 by adding Denmark, Ireland, and the United Kingdom. The EEC further expanded in 1981 with the addition of Greece, and again in 1986 with Portugal and Spain.

In 1979, several new advancements were created, including creation of The European Monetary System. The year 1987 saw the implementation of the Single European Act, which gave European Parliament members the ability to vote on legislation, with the number of votes dependent on each member's population. (Wilde, 2013)

On February 7, 1992, the Treaty on European Union was signed. This treaty, commonly known as the Treaty of Maastricht, came into effect on November 1, 1993 and changed the European Economic Community into the European Union ("EU"). The new European Union consisted of three pillars: the European Communities, Common Foreign and Security Policy, and Justice of Home Affairs.

The first pillar, The European Communities, concerns the domains in which the member states share their sovereignty in the community institutions. The second pillar, Common Foreign and Security Policy, replaces provisions of the Single European Act, allowing member states to take joint action in foreign policy. This involves an intergovernmental decision-making process largely reliant on unanimity. The third pillar, Justice of Home Affairs, deals with cooperation in the field of justice and home affairs. This implies that the Union is expected to partake in joint efforts to offer European citizens a high level of protection, justice, and freedom. The decisions made concerning this pillar are also intergovernmental. Externally, the Treaty of Maastricht resulted from the collapse of communism in Eastern Europe. Internally, the reasoning for the Treaty was that member states wished to supplement the progress and success that had been realized by the Single European Act. One of the most significant activities of the European Union was the creation of a single currency in 1999 – the euro.

The European Union expanded in 1995 with the addition of Sweden, Austria and Finland. Later, in 2004, the EU further expanded with the additions of Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. The next step of development came with the Lisbon Treaty. The treaty was an amended work of an earlier proposal that had been rejected by member nations. The Lisbon Treaty installed a European Union president and Foreign Minister. The treaty also expanded the European Union's legal powers through further developing the existing bodies. The Lisbon Treaty, originally signed in 2007, was finally implemented in 2009, after facing opposition. The first 'President of the European Council' became Herman Van Rompuy, former Belgium Prime Minister, and the first 'High Representative for Foreign Affairs' became Baroness Ashton from Britain. The most recent expansion of the European Union happened on July 1, 2013 with the addition of Croatia. The current number of European Union member nations is twenty-eight.

All member states of the European Union except Denmark and the United Kingdom are required to eventually utilize the euro as their currency and join the euro zone. To be considered a part of the euro zone, a country must adopt the euro as their currency. However, before a country is allowed to join, it must meet certain standards known as 'convergence criteria'. Denmark and the United Kingdom are two members of the European Union that are considered outside of the euro zone due to the fact that they use their own currency. These two member states are able to use their own currencies due to reasons of economic sovereignty. However, both countries are allowed to join in the future if they so desire. All European Union member states are part of the Economic and Monetary Union. This simply means that nations coordinate their economic policy to generate the highest level of welfare for the Union as a whole.

Formally, the convergence criteria are defined as a set of macroeconomic indicators. These indicators measure price stability, sustainability of public finances, exchange-rate stability, and long-term interest rates. The indicators measuring price stability are in place to ensure inflation is controlled and the country exhibits overall stability. This criterion is measured by using the Harmonized Index of Consumer Prices (“HICP”) inflation rate. The measurement is made in the same way that we measure this number in the United States using the Consumer Price Index. The official convergence criterion used by the euro zone requires that consumer price inflation is no more than 1.5 percentage points above the rate of the three member states with the lowest HICP inflation.

Indicators are also used to measure the soundness and sustainability of public finances. These criteria impose limits on government borrowing and national debt to avoid an insurmountable deficit that could affect the entire euro zone. The specific convergence criterion in terms of sound public finances is that government deficit as a percent of GDP must not be more than three percent at the end of the fiscal year. Furthermore, the euro zone requires that the ratio of gross government debt relative to GDP must not exceed 60 percent.

Countries originally wishing to join the euro zone also were required to join the Exchange Rate Mechanism which was operated under the European Monetary System. Countries were required to be a part of the system for two consecutive years, and could not devalue its currency during those years. Under the current Exchange Rate Mechanism II, the applying nation must show that it has been successful at keeping its exchange rate within a fifteen percent range from a central rate which does not change. Lastly, applicants must hold long-term interest rates to no more than two percentage points higher than the average of the three euro-zone countries with the lowest HICP inflation.

The decision in regards to achievement or failure to meet the convergence criteria is made by the European Union Council. At least once every two years, the European Central Bank publishes a Convergence Report to monitor and update the status of those aspiring to join the euro zone. The very first Convergence Report was released in November of 1996. In this initial report, it was discovered that of the original 15 European Union member states, only 3 were completely compliant with the five convergence criteria. As a result of this initial Convergence Report, the European Union Council decided to wait until a more positive report came out to introduce the euro. That positive report came in 1998 when it was demonstrated that 11 of the 12 aspiring countries were qualified. The lone country not qualifying was Greece.

Chapter 2 - Crisis Timeline*

--2009--

Now knowing the history and structure of the European Union, we can investigate the evolution of the sequence of events that have taken place during the European debt crisis. Most analysts argue that the crisis began on October 19, 2009, when Greek Prime Minister George Papandreou announced that Greece's annual budget deficit/GDP ratio would be much greater than the originally projected number of 3.7 percent. Then on November 5, 2009, Prime Minister Papandreou announced that the budget deficit would be a staggering 12.7 percent of gross domestic product ("GDP"), more than triple the original projection. Following the adjusted projections, the rating agency Fitch cut Greece's sovereign credit rating from A- to BBB+ with a negative outlook. Then, in an attempt to increase competitiveness and combat the escalating problems, the Prime Minister outlined his plan of reforms to correct the fiscal path of Greece. With the release of his plan, he vowed that the deficit would fall to 3 percent of GDP by the end of his four-year term in 2013. His plan revolved around reducing government operating expenditures and limiting consumption costs. Also, the Prime Minister outlined his goal of trimming down bloated agencies and making necessary cuts in all public sectors. The Greek sovereign credit rating was also cut on December 16, 2009 by Standard & Poor's from A- to BBB+, and again later on December 22nd by Moody's from A1 to A2. On December 17, the citizens of Greece took to the streets on strike. Thousands of workers went on strike over the rating cut, rising unemployment figures, strict austerity measures and uncertainty about the future. It was revealed that Greece's sovereign debt burden was over €300 billion, which put Greek debt at 113 percent of GDP. Recall that the Maastricht Treaty allows a maximum of 60 percent debt to GDP. During this same December period, Ireland implemented austerity

*information for Crisis Timeline section is excerpted from Mead and Blight 2013; except where noted

measures that included increasing the minimum age to receive pensions by one year from 65 to 66.

--2010--

In February of 2010, Spanish Prime Minister José Luis Rodríguez Zapatero announced austerity measures which increased the retirement age by two years from 65 to 67 in Spain. This plan faced fierce opposition from labor unions and many citizens; however, the plan was finally approved in January of 2011. In early March of 2010, Greek Prime Minister Papandreou met with the German Chancellor Angela Merkel, French President Nicolas Sarkozy, and President of the United States Barack Obama and maintained that Greece was not in need of any type of bailout. However, by the end of March, leaders of the International Monetary Fund and euro-zone leaders agreed on a deal in which both parties would help Greece via financial support. In April of 2010, Greece's credit rating was further downgraded to junk status by Standard & Poor's, which resulted in a skyrocketing of Greek government bond yields. This downgrade came after the 2009 Greek budget deficit was revised upwards to 13.6 percent of GDP.

On May 2, 2010, euro-zone leaders and International Monetary Fund ("IMF") leaders agreed to terms with Prime Minister Papandreou for a €110 billion bailout package to be implemented over a three-year period. The agreement included a mandate for additional budget cuts to be made by Greece. These additional budget cuts resulted in heavy protesting. It was reported that over 50,000 people protested on the streets of Athens, and that 3 people were killed during the violent demonstration. In the same month, euro-zone and IMF leaders created a €750 billion emergency fund to secure struggling euro-zone economies. With the vast uncertainty involved with the struggling euro-zone economies, the euro value steadily fell. On June 8, 2010,

the euro closed at \$1.19/€. This was the lowest rate of exchange against the United States dollar since March of 2006.

Later, in September 2010, Ireland's central bank announced that the cost of bailing out Anglo Irish Bank, which was nationalized by the Irish Government in January of 2009, could top the €34.3 billion mark. This raised Ireland's budget deficit to 32 percent of GDP. Then in November, Ireland's government officially applied for bailout funds from the European Union and the International Monetary Fund. In conjunction with the application, Irish Prime Minister Brian Cowen submitted a strict austerity budget with the promise to hold a general election in 2011. Within a week, an €85 billion bailout package was approved by European leaders.

--2011--

In February of 2011, European finance ministers created the European Stability Mechanism. This established a permanent €500 billion fund intended to serve as a lender of last resort for failing euro-zone economies. Later on, in March of 2011, Portuguese Prime Minister José Sócrates resigned when his proposed austerity budget was rejected by opposing politicians. Portugal then witnessed a steep rise in government bond yields. This led to a reduction in Standard & Poor's rating of Portuguese sovereign debt. It was in the following month of April that former Portuguese Prime Minister Sócrates requested bailout funding from the European Union and the International Monetary Fund. The next month, European leaders approved a €78 billion package for Portugal on the condition that Portugal implement a series of strict austerity measures.

Later, in June of 2011, Standard & Poor's downgraded Greece's credit rating again to CCC, which made Greek debt the lowest-rated sovereign debt in the entire world. In the same

month, another round of austerity measures was implemented in Greece, which was met with widespread protests. In July, Moody's rating agency lowered Portugal's debt rating to junk status after the agency was unimpressed with Portugal's recovery following the May 2011 bailouts. This same month, European leaders agreed to an additional €109 billion package for Greece. As a stabilizing measure for the euro zone as a whole, some existing Greek loans were restructured. This resulted in the cost being passed to private bond holders. Specifically, bondholders agreed to trade roughly €135 billion in bonds that were nearing maturity for bonds with longer maturities, resulting in a 21 percent haircut for bondholders. This restructuring was characterized as a "selective default" by Fitch, which marked the first government default within the euro zone since the adoption of the euro.

In August of 2011, Italy fell under intense scrutiny from investors, which pushed the interest rates on 10-year Italian government bonds over 6 percent. This scrutiny was further inflamed by a shaky relationship between Italian Prime Minister Silvio Berlusconi and finance minister Giulio Tremonti. Also, Prime Minister Berlusconi was involved in personal scandals which further added to uncertainty of investors. The fact that Italy owed a public debt of €1.9 trillion -- 120 percent of GDP -- made the magnitude of debt for Italy second only to Greece in the euro-zone countries. To appease investors, Berlusconi proposed €45 billion in spending cuts and tax increases for Italy. These motions allowed Berlusconi to narrowly survive a confidence vote in Italy's parliament. One day after the passing of the confidence vote, demonstrations from protestors turned violent in Rome and over 100 protestors were injured.

In October of 2011, Greek lawmakers narrowly passed another round of austerity measures, which included tax increases and public-sector wage cuts. This round of austerity measures sparked a 48-hour strike which shut down Athens. These demonstrations turned

violent and dozens of the 50,000 or more protesters were injured. In the same month, euro-zone leaders met in Brussels to attempt to develop a long-term solution to the debt crisis. The result of the private meetings in Brussels between Merkel, Sarkozy and Greece's creditors resulted in a bond swap which effectively cut the value of Greek debt in half. Furthermore, additional bailout measures agreed upon included the recapitalization of European banks and the expansion of the European Financial Stability Facility ("EFSF"), which is the European Union's primary bailout mechanism. Under the new arrangement, the EFSF would become a €1 trillion slush fund to insulate larger indebted economies such as Italy. Also in October, global financial markets took a severe hit as Greek Prime Minister Papandreou called for a referendum on the latest European Union bailout plan. This movement led to an internal revolt, and members of his own party called for his resignation. Later, on November 9, Papandreou announced his resignation. On the following day it was announced that the interim replacement for Papandreou would be former European Central Bank Vice President Lucas Papademos. Papademos was sworn into office on November 11, 2011.

On November 3, 2011, a summit of G20 leaders met at Cannes, France to discuss the International Monetary Fund and euro-zone financial crisis. This was the first time that European leaders publicly declared that Greece's departure from the euro was a possibility. Over the same time, Italian bond yields continued to soar. On November 8th Berlusconi effectively lost his parliamentary majority on a vote that many viewed as an unofficial vote of no confidence. That same day, Berlusconi announced that he would step down if parliament would approve a new round of economic reforms. Yields on Italian government 10-year bonds reached a staggering 7.5 percent. Berlusconi finally was able to pass his budget, and stepped down on November 12th. He was replaced by a politically independent economist named Mario Monti,

who previously had served on the European Commission. Monti spent the first weeks assembling his government, but the markets took a dive due to the early inaction of Monti. A bond auction was held on November 29, at which 10-year yields topped 7.5 percent, while 3-year bonds neared 8 percent.

November 20, 2011 brought a change in government for Spain after voters elected to transition from the Spanish Socialist Workers' Party to the Popular Party with an overall majority in parliament. Prime Minister Zapatero remained the prime minister and Popular Party leader Mariano Rajoy began the task of forming the new government in Spain. At the same time, in November of 2011, Standard & Poor's downgraded Belgium's credit rating. The downgrade came as a result of the 530 days without a formal government in Belgium. After the downgrade, Belgian 10-year-bond yields jumped to 5.86 percent, which was the highest rate in over a decade. This trend led Belgian lawmakers to work energetically towards building a coalition government. During negotiations between lawmakers, Elio Di Rupo emerged as a favorite candidate to lead a grand coalition government. He was sworn into office on December 6, 2011. Di Rupo's promises were to cut spending and reduce the overall debt of Belgium.

In Brussels on December 9, 2011, exactly 20 years after the meeting which concluded with the European Council conceiving the Maastricht Treaty, European leaders met to reshape the European Union. Proposals discussed in the meetings included creating a fiscal stability union, integration techniques, and additional penalties for countries exceeding the specified debt requirements. To enact these proposed agreements, changes to the existing European Union treaty protocol had to be made. This process required unanimous approval from the 27 European Union leaders. British Prime Minister David Cameron chose to withhold his vote after he was not granted some secure regulatory exemptions for London's financial sector that he was

seeking. All other 26 members of the European Union passed the changes which faced referenda or parliamentary approval from the member-state level. When leaders met in Brussels on January 30th, the guidelines for fiscal discipline were finalized and 25 of the 27 European Union member states agreed to terms, with the United Kingdom and the Czech Republic choosing to opt out.

In the days following the December 9th meetings, a verbal conflict brewed between France and the United Kingdom. In this same month, Moody's cut Belgium's credit rating; Fitch lowered France's economic outlook to "negative"; and the euro continued to depreciate against the dollar. Analysts blamed the continued slide of the euro on the lack of decisive action by European Union leaders and the European Central Bank to instill belief in the currency.

On December 21, 2011, the European Central Bank loaned out €469 billion to over 500 banks across Europe. This action was taken to prevent a credit freeze and promote financing. The three-year loans were offered with a fixed 1 percent interest rate. In January, Standard & Poor's downgraded nine euro-zone member's credit ratings, and classified Portugal and Cyprus bonds as junk status. Portuguese 10-year-bond yields responded to news of the downgrade by skyrocketing to a record 18.29 percent. Portugal became the second European country at the time to have its debt downgraded to non-investment status by all three ratings agencies.

--2012--

In February of 2012, Greek lawmakers were finalizing the debate on another round of strict austerity measures to open the door for an additional €130 billion in bailout funds from the European Central Bank, the European Union, and the International Monetary Fund. These debates triggered widespread violent protests. Dozens were injured in protests in Athens once

again, as several buildings were set on fire. However, the Greek parliament ultimately decided to accept the rounds of austerity measures, and collected the allotted bailout funds. One condition to the bailout package was that Greece had to further restructure its debt. Specifically, private-sector bondholders were asked to give up 53.5 percent of the nominal value of their bonds by swapping them for new ones which had lower interest rates, longer maturities, and carried higher credit ratings. This agreement equated to around a 70 percent loss of the net present value of the debt. As further incentive to participate in the restructuring program, investors also received two-year AAA European Financial Stability Facility bonds.

In the same month, Moody's once again made debt rating cuts for six European countries. Furthermore, the firm downgraded its economic outlook on France and the United Kingdom to negative. Also in February, over 800 banks in Europe took advantage of the European Central Bank's second round of loans aimed at creating financing. This round of loans injected over €530 billion into the European banking system. The money, in addition to the previous rounds of loans, totaled over €1 trillion injected into the European banking system to increase liquidity in the credit market and encourage lending.

In March of 2012, yields on Italian and Spanish bonds dropped to five percent. Unemployment across the European Union reached a record high. In Spain and Greece, unemployment rates hovered around 20 percent, while the unemployment rate for individuals under the age of 25 approached 50 percent. During this time, manufacturing activity continued to drop and it was reported that the euro-zone's economy contracted by 0.3 percent in the final quarter of 2011. In Greece, a majority of private bondholders agreed to take a haircut of over fifty percent on their government bonds. Bondholders agreed to swap their government bonds for longer term bonds with a lower interest rate. On March 9, 2012, the Greek government

elected to exercise collective action clauses to force all bondholders to accept the deal, which allowed them to wipe off around €100 billion in debt. The implementation of the collective action clauses marked a true loan default. Unlike the selective default in July of 2011, this procedure was not optional. This action caused billions of dollars to be paid out in credit-default swap insurance because it was declared a credit event by the International Swaps and Derivatives Association.

Also during March of 2012, hundreds of thousands of people filled the streets to protest new budget cuts in Spain. The cuts, brought forth by Spanish Prime Minister Mariano Rajoy, totaled €27 billion, and were aimed at bringing Spain back to the European Union acceptance zone. Prime Minister Rajoy announced he was revising his previous announcement of a 2012 public deficit goal of 4.4 percent of GDP for a more realistic goal of 5.8 percent of GDP. European Union leaders responded negatively to the revised goal and forced a compromise with the Spanish Prime Minister for a deficit target of 5.3 percent of GDP. During this same month, the euro-zone finance ministers announced an expansion of the European Financial Stability Facility and European Stability Mechanism. This move came as warnings were raised by the G20 and International Monetary Fund that the existing funds were not sufficient to handle a bailout of a large country such as Spain or Italy. This move allowed for these two elements to have access to a combined €800 billion in funds.

In April of 2012, Spanish Prime Minister Rajoy announced an additional €10 billion in budget cuts due to a bond auction which failed to raise the desired funds. However, the additional cuts did not stop the yields on Spanish bonds from increasing. In Greece, the violence continued, and protesters used a retired pharmacist who committed suicide in protest of the austerity measures as a rallying symbol.

Also in April, Dutch Prime Minister Mark Rutte proposed cuts to social welfare programs in an attempt to bring the Netherlands in compliance with the European Union's deficit cap. This created major pushback from citizens and Prime Minister Rutte lost the support of the people. The government collapsed in short time, and new elections were scheduled.

In May of 2012, Europe began to see the rise of anti-austerity candidates. François Hollande was elected as the president of France and politicked for a pro-growth approach towards solving the crisis. He chose to not focus on austerity measures, and rather attempt to stimulate growth across France.

Greece became the talk of the world as market analysts began to discuss what was being called "Grexit," referring to Greece's prospective exit from the euro zone. A run on Greek banks became a serious concern as citizens and analysts suspected a possible return to their previous currency, the drachma. On one day alone, May 14, 2012, Greek citizens withdrew over €700 million from the Greek banking system.

In this same month, the Spanish government announced a €23 billion bailout of Bankia, Spain's largest mortgage lender. Spain also faced regional governments that were struggling with unsustainable levels of debt. The scenario in Spain led to the Spanish reporting the highest levels of unemployment in the European Union at 24.3 percent. Spanish 10-year bond yields rose to around 6.5 percent during this time, and the euro hit a 22-month low against the dollar.

In June, the Spanish government requested €100 billion in financial assistance from the European Union to recapitalize its banks. Spanish Prime Minister Rajoy was hesitant to call it a bailout and elected to advertise it as a "soft loan." Markets initially accepted the "bailout" of Spain as good news; however, 10-year bond yields continued to rise and surged above 7 percent.

Shortly after the news, Moody's downgraded the credit rating of Spain to just one step above junk status.

On June 17, 2012, Greek voters elected the pro-bailout New Democracy party. The New Democracy formed a coalition government, and the leader Antonis Samaras became the new Prime Minister. Samaras worked quickly to impose spending cuts in anticipation of a visit from European Union leaders, the International Monetary Fund, and the European Central bank. Samaras hoped Greece would be able to attain supplemental funding to the €31 billion in scheduled aid in September of 2012. It was estimated that if Greece was unable to attain this supplemental aid it would be unable to cover civil service salaries and pensions in the month of August.

In this same month, Cyprus joined the list of countries applying for a bailout, making it the fifth euro-zone country to apply. Cyprus was impacted by the close economic ties to Greece and their great deal of exposure to the Greek economy via private loans and the purchases of Greek government debt. This exposure amounted to nearly 160 percent of Cyprus's GDP.

In July of 2012, Spanish 10-year bond yields once again surged above 7 percent. During this same time, German and Austrian 2-year bond yields dropped below zero. This period marked a historic low for borrowing costs in Germany, Austria, France, and Belgium as investors looked to find safe financial investments in the European Union. On July 11th, violent protest erupted in Madrid as thousands of coal miners converged on Madrid to protest a reduction in mining subsidies. That same day, Prime Minister Rajoy announced an austerity budget that included €65 billion in spending cuts and tax increases, causing further uproar. On July 26th, European Central Bank President Mario Draghi made possibly the most important

statement of the debt crisis. In a speech to bankers in London, Draghi was quoted as saying, “Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.” This statement caused confidence to go up in the euro and led to widespread belief in the future of the euro zone.

On September 6, 2012, the European Central Bank announced an unlimited but sterilized bond-buying program. The meaning of sterilization is that the central bank would take actions to offset the bond purchases to avoid increasing the money supply. This operation became known as the Outright Monetary Transaction and replaced the Securities Markets Program. With the new plan, the European Central Bank purchased sovereign debt from countries that formally requested bailouts. The option of continued conditional aid was available if there was adherence to strict budget requirements.

Later in September, German courts gave the green light on German participation in the permanent bailout fund known as the European Stability Mechanism. Now accepting of the bailout fund, Germany added €190 billion to the €700 billion fund. The legislative framework for the combined European Stability Mechanism and the European Financial Stability Facility was put together to begin in January 2013.

In November of 2012, Greece received news that the European Union and International Monetary Fund agreed to a deal that allowed Greece to cut their debt mountain by €40 billion. With this development, Greek Prime Minister Samaras, said that the landmark agreement opened the way to the county’s “rebirth.” This deal came just in time for Greece as it allowed them to avert bankruptcy and secure their position in the euro zone. In December, Ireland announced

another round of budget cuts was coming. This time it was a cut of €2.5 billion. The program imposed new property taxes and cuts in child benefits.

--2013--

In January 2013, European Commission President José Barroso made a series of bold statements in regards to the European crisis. President Barroso said, “I think we can say that the existential threat against the euro has essentially been overcome.” This statement came with a great deal of controversy across Europe and the world as uncertainty remained over the future of the euro.

In February of 2013, after a twenty-five-and-a-half hour negotiation session in Brussels, European leaders agreed on a budget deal for the rest of the decade that would lead to the first cut in European Union spending in its history. Then in March, after months of uncertainty and indecision about a potential Cyprus bailout, news came down that a deal had been struck. The basics of the bailout were a €10 billion injection into Cyprus, as well as the forced closure of Cyprus’s second-largest bank, Laiki Bank. The new program was designed to protect deposits below the €100,000 limit, while accounts worth more than €100,000 would be moved to a “bad bank,” with the fear of being deemed valueless at the time. The deal also forced a major restructuring of the Bank of Cyprus. Depositors with over €100,000 in the Bank of Cyprus eventually faced losses of about 30 percent.

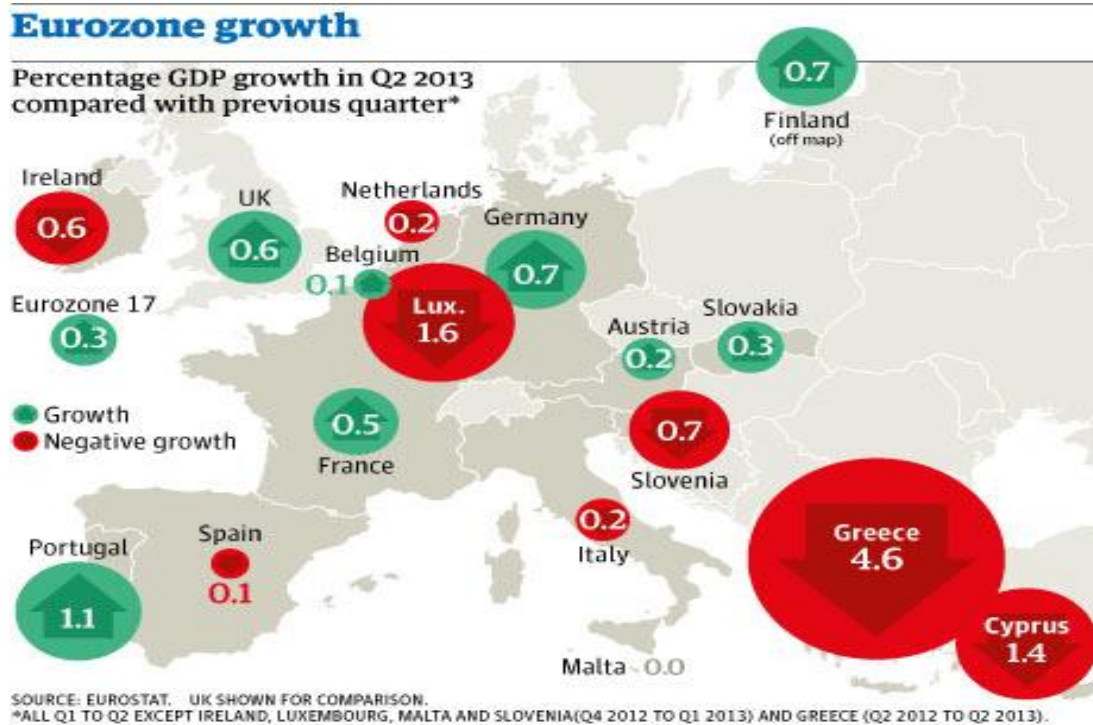
In May of 2013, unemployment reached an all time high level across the euro zone for citizens under the age of twenty-five. During the previous month of April, 24.4 percent of the labor force under age twenty-five across the euro zone were unemployed. At the same time, overall unemployment throughout the euro zone rose to 12.2 percent. Later on in June, French

leader François Hollande declared the “crisis in the euro zone is over”. This statement came as countries across the euro zone were facing record unemployment, continued protests, and uncertainty. At the time the statement was made, unemployment rates for Greeks between the ages of 15 and 24 was fifty-nine percent. Likewise in Spain, unemployment numbers for the same age group was at fifty-five percent. The comments made by Hollande faced criticism from fellow Europeans and many other observers across the world.

Finally, on Wednesday August 14, 2013, signs of growth in Europe emerged after an 18-month double-dip recession. Europe’s economic commissioner, Olli Rehn, announced that the euro zone had expanded collectively by 0.3 percent in the three months prior to June. This marked the first growth since the fall of 2011. Rehn was hesitant to project celebratory gestures given the incredibly high unemployment figures and disparity in economic performance. Rehn was quoted as saying, “Yes, this slightly more positive data is welcome – but there is no room for any complacency whatsoever. I hope there will be no premature, self-congratulatory statements suggesting the crisis is over, for we all know that there are still substantial obstacles to overcome. The growth figures remain low and the tentative signs of growth are still fragile.” The following graph shows the welcomed signs of 2013 growth in the euro zone. Note, however, that eight member nations of the euro zone experienced declining GDP. If one omits Germany and France from the sample of nations, euro-zone growth was negative in the second quarter of 2013.

Figure 1

Percentage GDP Growth in 2nd Quarter Compared With Previous Quarter



Source: (Eurostat, 2013) – Second Estimate for the Second Quarter of 2013, September 4, 2013

On Sunday September 22, 2013 Angela Merkel won election for her third-term in office. This made her the only leader in the euro zone to be re-elected since the snowballing debt crisis that began in 2010. Of the seventeen countries in the euro zone, twelve governments have changed leadership as a result of the crisis. The re-election of Merkel likely means that the Germans will remain pro-austerity and rather resistant to providing bailout funding.

Chapter 3 - Major Causes

Now that we have examined the timeline of events in the European crisis, the next step is to understand and summarize the main causes of the crisis. In short, one of the main causes of the entire issue was the blatant violation of the European Union rules by some nations. Greece was the most extreme violator of the rules. In addition to Greece, other countries are still in trouble, including Ireland, Spain, Italy and Portugal (“PIIGS”). These troubled countries and economies are now paying a heavy price. Below is a table which illustrates the government deficit/surplus of the PIIGS countries, as well as Germany, and the average of the whole euro-area.

Table 1

Budget Surpluses as Percentage of GDP

GEO/TIME	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Euro area (17 countries)	-3.1	-2.9	-2.5	-1.3	-0.7	-2.1	-6.4	-6.2	-4.2	-3.7
Germany	-4.2	-3.8	-3.3	-1.6	0.2	-0.1	-3.1	-4.1	-0.8	0.2
Ireland	0.4	1.4	1.7	2.9	0.1	-7.4	-13.9	-30.8	-13.4	-7.6
Greece	-5.6	-7.5	-5.2	-5.7	-6.5	-9.8	-15.6	-10.7	-9.5	-10.0
Spain	-0.3	-0.1	1.3	2.4	1.9	-4.5	-11.2	-9.7	-9.4	-10.6
Italy	-3.6	-3.5	-4.4	-3.4	-1.6	-2.7	-5.5	-4.5	-3.8	-3.0
Portugal	-3.7	-4.0	-6.5	-4.6	-3.1	-3.6	-10.2	-9.8	-4.4	-6.4

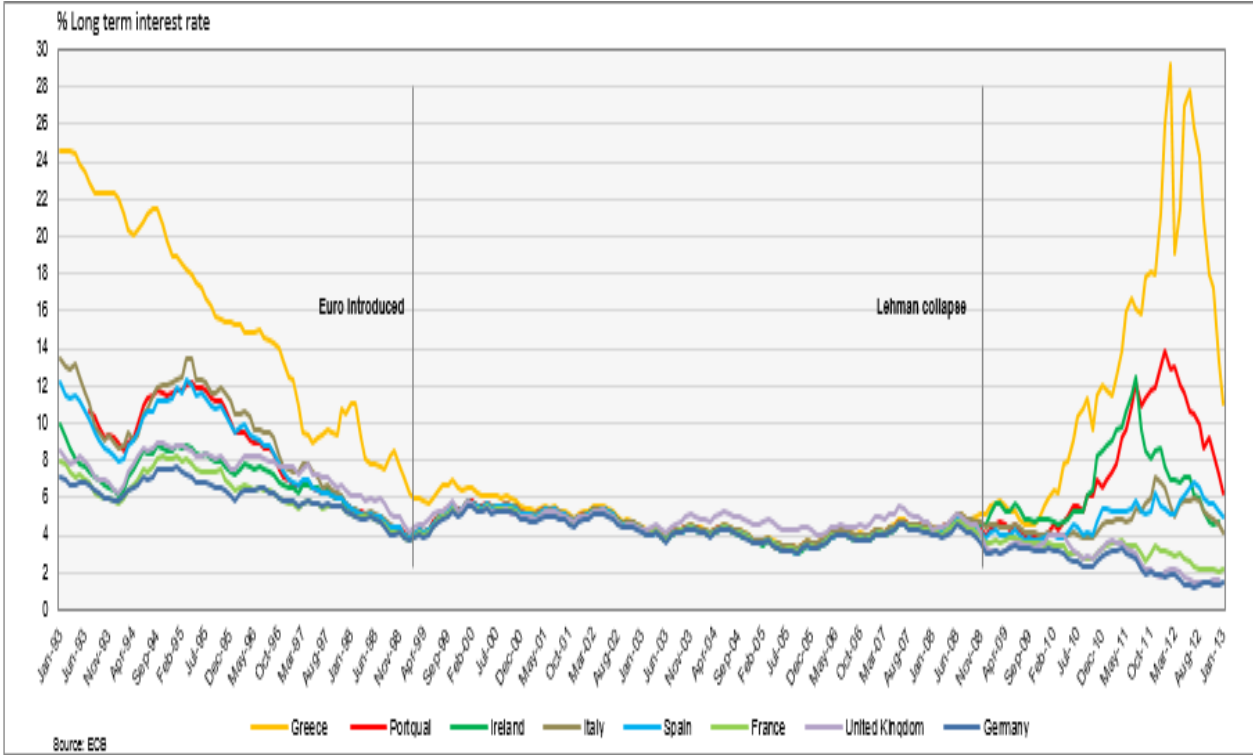
Source: (Eurostat 2, 2013) – General government deficit/surplus

Not all of these countries violated the rules, and none of them did to the blatant extent of Greece. For example, Spain and Ireland were two countries that actually ran budget surpluses for at least three consecutive years prior to the crisis. However, we see that when the world recession began in 2008, they both quickly ran deep government deficits, at 4.5 percent, 11.2 percent, and 9.7 percent for Spain, and 7.4 percent, 13.9 percent, and 30.8 percent for Ireland. Germany, on the other hand, did break the three percent European Union deficit/GDP limit in

2003, 2004, and 2005. It did not, however, receive penalties and is now the strongest country in the euro zone. From this table we can see just how high some of the deficits were during 2009, 2010, and 2011. Again, in Ireland a staggering 30.8 percent ratio of deficit to GDP was run in 2010.

Debt in these countries became a large burden because the government of each took advantage of extremely low interest rates to boost expenditures for nearly a decade. The following graph shows the long term interest rates of government bonds for the PIIGS countries, as well as the United Kingdom and Germany over the period extending from 1993-2013.

Figure 2
Change in Percent of Long Term Interest Rates for 8 European Countries



Source: (European Central Bank, 2013) – Harmonized long-term interest rates

This very interesting graph illustrates the convergence of the interest rates as the euro is introduced. We can observe the high cost level that Greece was facing to borrow prior to the euro. As the introduction of the euro drew near, Greek bond yields dropped from nearly 25 percent in 1993, to 6 percent at the start of the euro in 1999. The same is true to a less severe extent in the countries of Italy, Portugal, Spain, and even Ireland. We can also observe that prior to the economic crisis that set everything in motion, all of these countries were able to borrow at extremely low rates relative to the rates they were facing before the introduction of the euro. Then, after the economic crisis reached Europe and uncertainty about the future set in, interest rates quickly diverged from German and French levels. We see that Greek bond yields skyrocketed up to 29 percent in 2011. All of this easy credit during the pre-crisis years made it enticing for countries such as Greece to borrow heavily. The crisis brought unemployment and hardship for workers. This process created a compression in demand, and many defaults occurred on loans made to citizens laid off during the recession. In Spain and Ireland, this proved to be catastrophic because banks that were becoming insolvent owing to defaults on mortgages had to be propped up by the government to maintain solvency. This was the same circumstance that other economies which witnessed a housing bubble experienced.

Low interest rates fueled domestic spending and generated inflation of wages and goods. This labor cost increase caused the prices of goods to go up, and therefore made exports more expensive and imports relatively cheap. Germany, however, made it a high priority to suppress wage increases and thus still maintained low prices relative to fellow euro-zone members. This policy made their exports cheap relative to other euro-zone countries, and helped make them the most competitive euro-zone economy.

Chapter 4 - Analysis

As discussed in the timeline summary of the euro-zone crisis, members of the euro agreed to write down half of the Greek debt owned by the private sector. In addition, they agreed to recapitalize banks in Europe and boost the emergency fund to protect euro-zone governments. Whether this will prove to be enough to save nations such as Greece remains to be seen. The process to recovery will certainly be long and painful, as the road currently being taken is the road of strict austerity.

This austerity path, however, risks being self-destroying. The strict austerity measures will certainly make the current debt in these countries harder to manage, and will stymie growth. According to *The Economist* (2011), Germany's approach suffers from a fallacy of composition. It is not possible for all countries to save their way to prosperity. To argue this thought, Keynes pointed out after the depression, that someone, somewhere must be consuming. In Europe, the countries with potential to be consuming heavily are those such as Germany and the Netherlands. Both of these countries have run current-account surpluses but they are hesitant to become creditors. They may need to take on this role more deeply to prevent contagion. Understandably, Germany has been the voice for more responsibility from PIIGS' governments so that German taxpayers will not have to foot the bill for bailouts when countries overspend.

One major aspect of this entire crisis is the inability of some of the euro-zone nations, known as the periphery, to compete with the core countries. The core countries consist of the most powerful and wealthy amongst the euro zone, such as Germany, the Netherlands, and France. The periphery countries are those which are smaller in market share, and are generally subject to the decisions made by the core nations. One measurement that is used to examine the

competitiveness among countries is the unit labor costs. Unit labor costs calculate the average cost of labor per unit of output. Algebraically, unit labor cost can be found using the following formula:

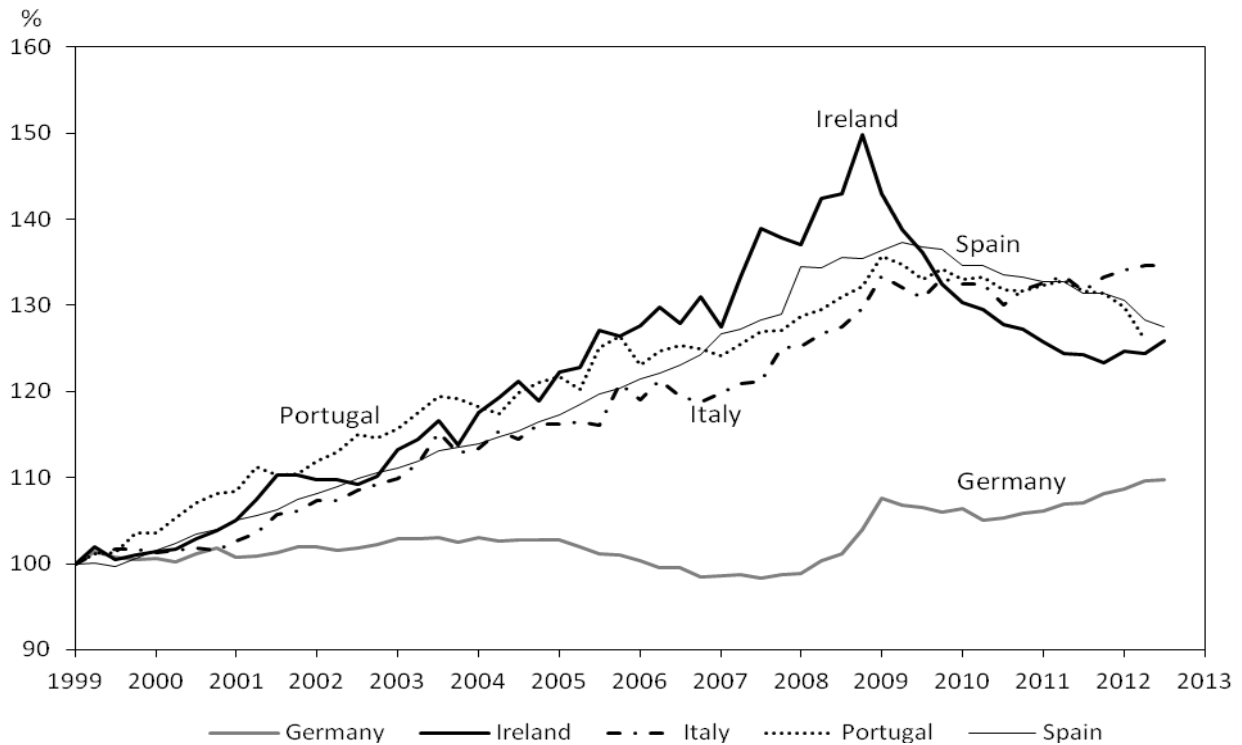
$$\text{Unit Labor Cost} = W/(q/L)$$

In this equation: W is labor compensation, q denotes physical output, and L is total employment.

The unit labor cost by definition is the ratio of total labor costs to real output. Thus, this statistic is a critical piece of the puzzle towards understanding the issues within the European Union. Unit labor costs represent a bond between productivity and the cost of labor in producing output. If a country's unit labor costs are increasing in comparison to a competing country, the rising-cost nation will lose market share as it loses ability to compete with the more productive country. The unit labor cost, which I will utilize for investigation in the following chart, is a measurement in this case shown as in index number relative to 1999 levels, which are normalized and set equal to 100.

Figure 3

Unit Labor Costs in the Euro Zone



Source: (AMECO Database, 2013) – Annual macro-economic database

As we can see from the data, in the years prior to the debt crisis, German unit labor costs increased much more slowly than in the PIIGS nations. In fact, note that German unit labor costs since 1999 had actually decreased slightly until just before the recession in 2008. In contrast, the unit labor costs of Portugal, Italy, Ireland, and Spain had all increased greatly. This implies that prices were raised more rapidly by PIIGS firms than by German firms. We also see in the post-2009 period, the debt-strapped PIIGS countries displayed a slight decrease in unit labor costs through 2010. Following 2010, Italy has been the only PIIGS country to display a continuing rise in unit labor cost. We do see that Germany witnessed an increase in unit labor cost in the 2008-2012 period. Although Germany observed a slight decrease from 2009 to 2010, it has observed a slight and steady increase since 2010.

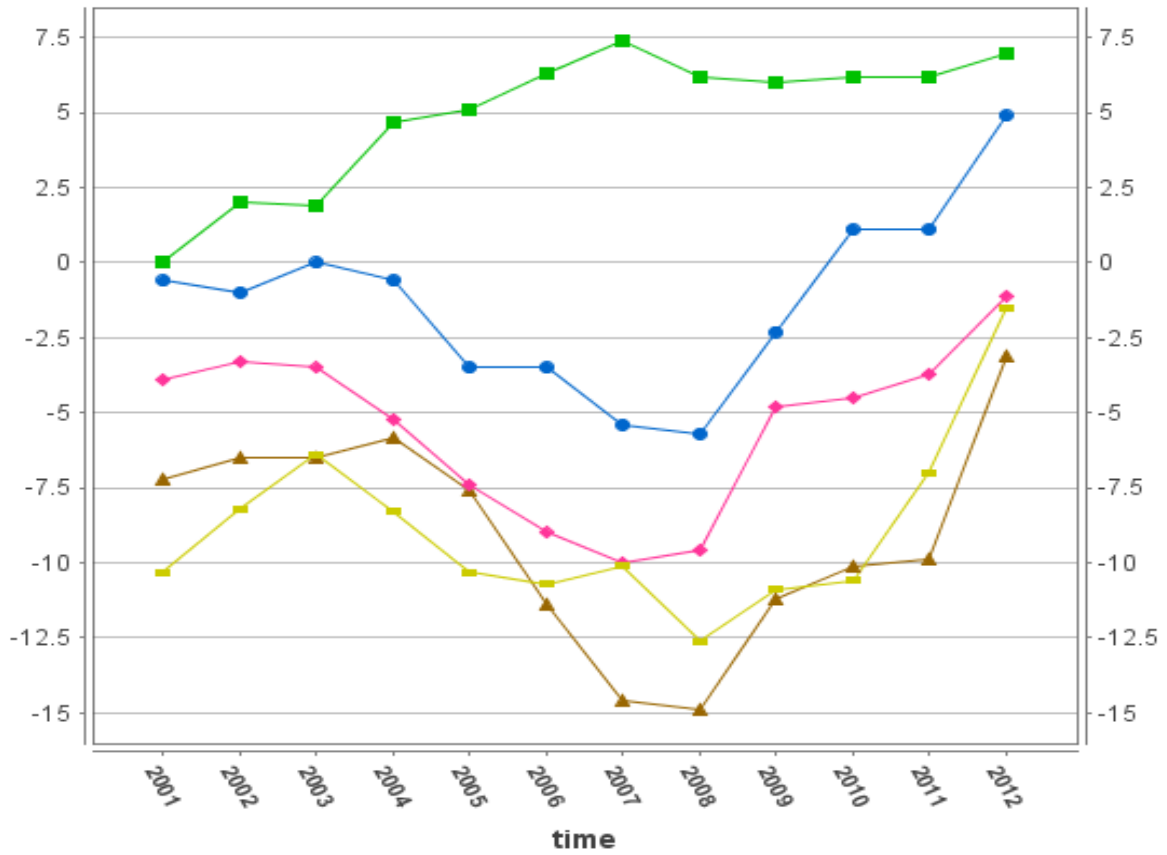
It is important to note, that from 2009 to 2013, the unit labor costs of Spain and Portugal have fallen steadily. In Spain, this decline was the result of significant wage cuts made in combination with a slight rise in productivity. Ireland's unit labor costs skyrocketed during 2007 and 2008 and have decreased sharply since then.

This graph really shows the underlying divergence that has occurred in unit labor cost in the euro zone. The decrease of the unit labor costs of some PIIGS countries suggests that there has been some convergence of unit labor costs since the recession, but the process remains far from complete. Germany's decline in unit labor costs is not due to any acceleration in productivity growth. The reduction is caused by a wage restraint. The strategies of Germany to position itself in great standing were to increase its current-account surplus through expanding its commercial exports. (Rossi, 2012)

As a result of the failure of the PIIGS nations to hold down unit labor costs and price levels like nations such as Germany, they have experienced large current account deficits since the beginning of the euro. The following figure illustrates the current account balances as a share of GDP for each of the PIIGS countries.

Figure 4

Current Account Balance as Share of GDP of Several Euro-Zone Member Nations



Source: (Eurostat 3, 2013) – Balance of the current account database

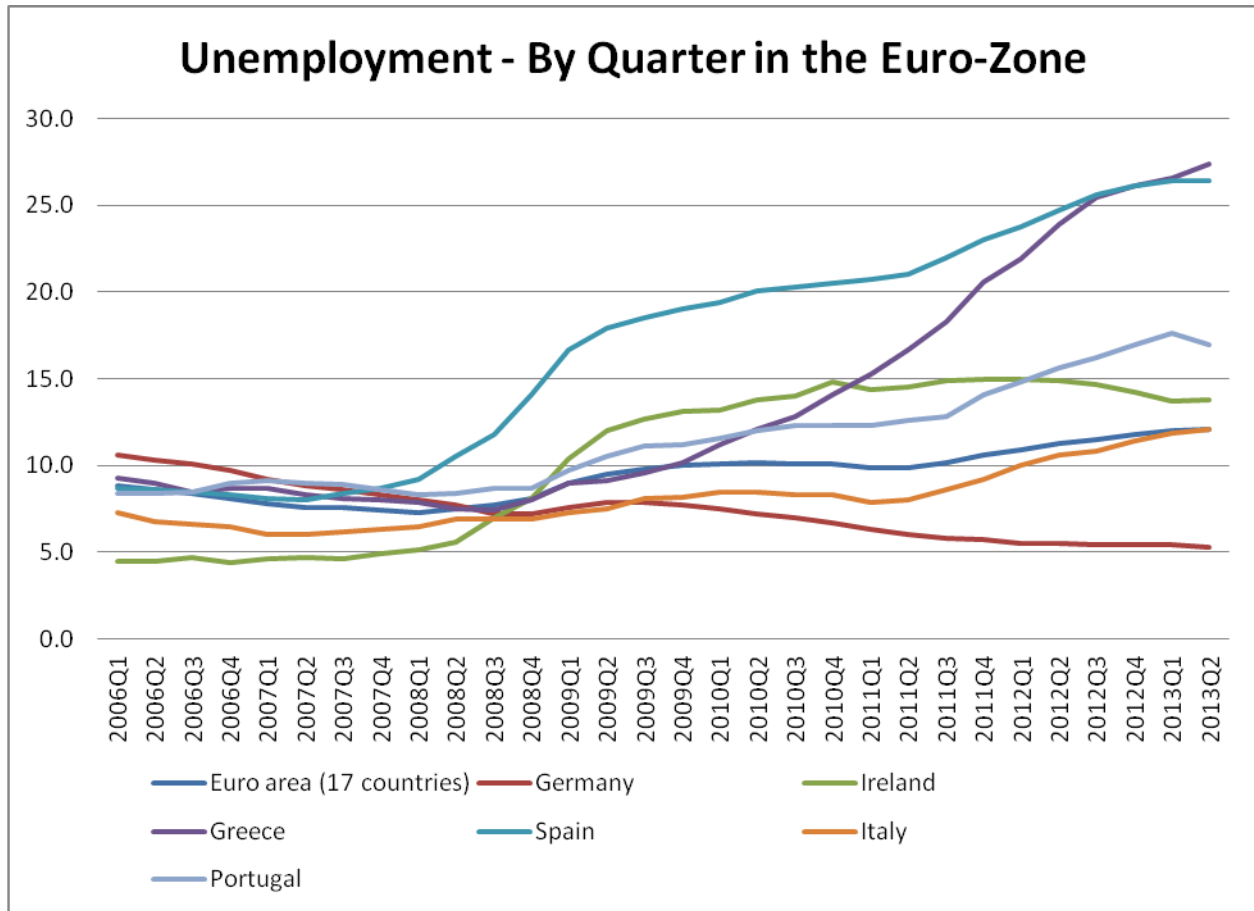
As illustrated in the figure, Germany has run large trade surpluses, typically exceeding 5 percent of GDP. Their current account surplus increased by 7.5 percentage points of GDP from 2001-2007. Since 2007, Germany has maintained a level of surplus averaging roughly 6 percent. In contrast, Spain, Portugal, and Greece have experienced current account deficits, though the deficits have declined sharply since 2008.

If competitiveness is to be regained by the PIIGS countries, which will be a very difficult task with the euro, wages will have to come down or productivity growth will have to go up. The natural way to normally accomplish competitiveness for countries is by currency devaluation. However, that is not an option in the single currency group of euro-zone countries. Furthermore, the monetary union has imposed fiscal rigidity which has removed monetary independence. This has led to many discussions surrounding labor market adjustments because many believe that labor market adjustments are the most feasible way to adjust competitiveness. Because increasing productivity is not easy and generally not something that can be accomplished immediately, much focus has been placed on the prospects of beneficial labor market techniques.

The most prevalent labor market technique is to decrease the nominal wage rates in a country. This represents a sort of internal devaluation. However, decreasing the nominal wage rate creates psychological and legal problems. Thus, the question is whether workers in struggling countries such as Spain, where over a fifth of the labor force is unemployed, would accept a reduction in wages. Not only is it questionable whether the wage cut would be accepted, but also if individuals would still be willing to work just as hard as before the cuts to maintain their firms' competitiveness. In order to keep their jobs in the face of the staggering unemployment figures, this certainly may be the case.

In the chart below we can view the high unemployment figures facing these PIIGS countries.

Figure 5



Source: (Eurostat 4, 2013) – Unemployment rate – quarterly average, %

As we see from the graph, the unemployment figures are staggering. In examining this graph created using data provided by eurostat, we see Germany had a higher unemployment rate than all of the PIIGS countries prior to the recession. Germany's unemployment rate went from the highest to the lowest from 2006-2013 among the nations graphed. Prior to the recession, we see that Ireland maintained the lowest unemployment rate of the countries included. As the year 2008 approached, we witnessed a convergence of unemployment rates. As the recession, and following euro-crisis unfolded, we see unemployment rates diverged, and the rates for Spain and Greece skyrocketed. Germany's unemployment rate was largely unaffected by the euro-crisis

and actually continued to decline after early-2009. Italian unemployment rates were slightly lower than, but largely mirrored the overall euro-area trend throughout the crisis. In Greece, we see that unemployment exploded following the crisis as the country implemented strict austerity measures. The same is true for Spain, as we see the unemployment rate in mid-2013 was 26.4 percent. Interestingly, we observe that after a steady increase in Portugal's unemployment rate over the past few years, we notice a definite decline in 2013.

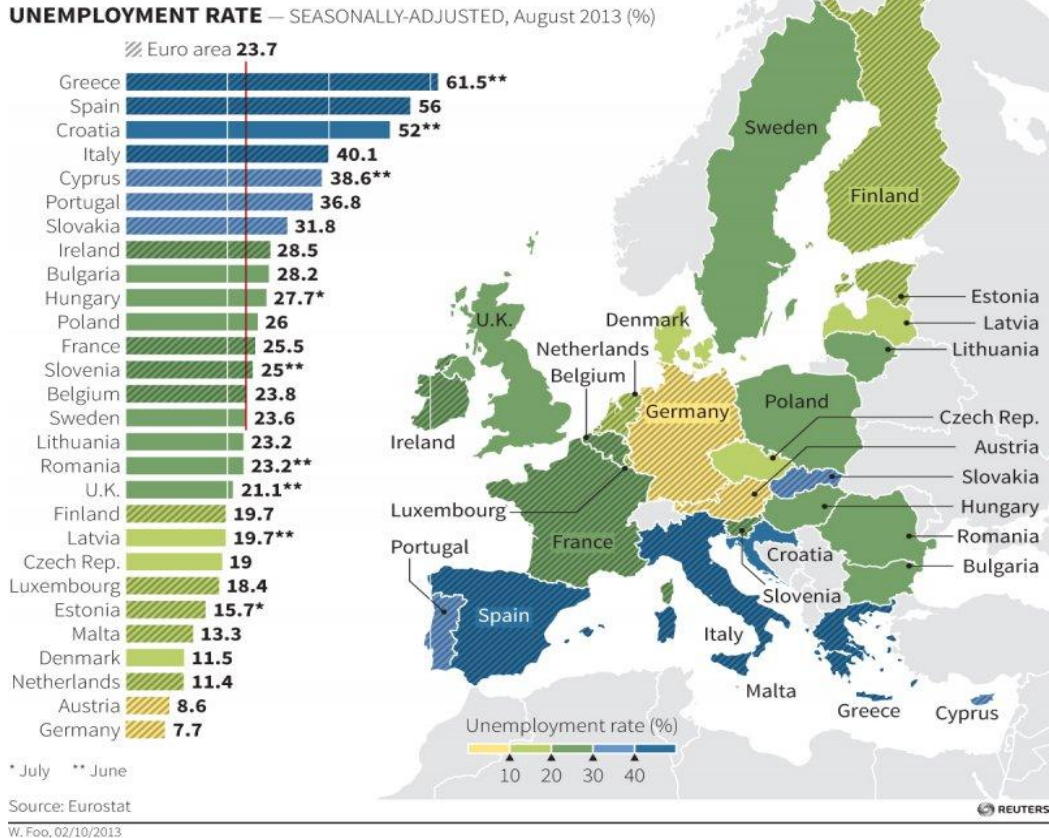
According to Jose Diogo Albuquerque, Portugal's Secretary of State for Agriculture, this increased employment is due to the renewed growth in farming. The number of farming-related jobs increased 10.6 percent in the second quarter of 2013 from the previous 3 months. Portugal had undertaken a shift from the farming sector, which used to be its largest industry, to the service sector. Albuquerque was quoted recently stating, "What I have started to note is an economic reversal, a return to the basics." According to Albuquerque, the renewed growth in the farming sector stems from young workers who are unable to find jobs in the urban areas. An average of 280 entrepreneurs a month under the age of 40 started a new farming business in Portugal, taking advantage of €1.3 billion a year in European Union and government grants for farm development. (Almeida, 2013)

While many of these Portuguese workers have been able to take advantage of the farming sector in Portugal to find employment, the unemployment numbers for young people across the rest of the euro-zone countries are not as encouraging. The following graph shows the unemployment rates for individuals from the ages of 15-24 separated by country.

Figure 6

Youth Unemployment Rates in Europe

Youth unemployment rate holds steady



Source: (Eurostat 4, 2013) – Same as Figure 5, selected age less than 25 years

This graph shows the true disparity that young workers are facing in the euro-zone countries. We can see from the graph that in Greece, young workers are facing an astronomically high unemployment rate of 61.5 percent as of June 2013. Nearly equally as staggering is the unemployment rate for young people in Spain, which is 56 percent. Other countries facing rampant unemployment for young people pictured in the graph are Croatia, Italy, Cyprus, Portugal, and Slovakia. On the other end of the spectrum, many countries are experiencing very good employment numbers for their youth. Germany has the lowest youth

unemployment rate at 7.7 percent. Austria is close behind with a rate of 8.6 percent. We also see from the graph that the overall euro-zone average is 23.7 percent. This number is a historic high and nearly twice as high as the adult rate, which according to eurostat was 12.0 percent in August of 2013.

The very high rates of unemployment faced by some of the member states have caused many to worry about the possibility of a “lost generation”. The worry is that this high youth unemployment will create a class of poorly educated and motivated people deprived of the opportunity to develop important work skills during their formative years. The “lost generation” would maintain low morale and would be relatively unproductive compared to other generations. Having a future adult population with this sort of low morale and lack of work ethic and skills could prove to stymie any hope for a turnaround in competitiveness for the struggling countries of the euro zone. (Bruton, 2013)

Chapter 5 - Solutions

The process of fixing the lack of competitiveness and poor growth prospects would generally be relatively simple for nations that have control over their exchange rate. Typically, states would simply devalue their currency to regain competitiveness. However, with the euro, that sort of solution is impossible and would require an exit from the euro zone.

The current path taken to combat and solve the euro-zone debt crisis has largely been one of austerity measures. Because of the current path, and re-election of German Chancellor Angela Merkel, it is likely that this austerity strategy will continue. Again, austerity measures involve debt-reduction policies. It is important to note that there are two main types of austerity measures. The first type deals with tax-increases to raise funds for the government to reduce deficits. The second type is to cut spending. Most austerity packages utilize a combination of both spending cuts and tax increases. According to many economists, spending cuts are more effective than tax increases in reducing the ratio of debt to GDP. (Rugy, 2013)

In a study done by the American Enterprise Institute, economists Andrew Biggs, Kevin Hassett, and Matthew Jensen found that countries which addressed budget shortfalls by reducing spending were much more likely to decrease their debt than countries that implemented higher taxes. Furthermore, the study found that the average unsuccessful fiscal consolidation consisted of a fifty-three percent increase in taxes and a forty-seven percent cut in spending. In contrast, they found that the average successful austerity packages consisted of eighty-five percent spending cuts. (Rugy, 2013)

Another idea discussed amongst economists and politicians is the option of a tax reform mimicking the effects of an external devaluation which is referred to as a fiscal, or internal devaluation. Fiscal devaluation is essentially a budget-neutral reduction of payroll taxes

balanced out through hikes in other taxes or cuts in government expenditures. The typical example of fiscal devaluation consists of a reduction of employers' contributions and an increase in the value added tax rate (VAT). With nominal wage rigidity, the reduction in the social security contributions rate depresses unit labor costs and increases competitiveness. The result of this increased competitiveness is an increase in net exports. In conjunction with the lower social security contributions, the higher VAT rate lowers consumption and imports without affecting exports. The result of this process is an expansion of output and an improvement in the trade balance. (Bettendorf et al., 2013)

In a working paper compiled by office of the European Commission's Directorate-General for Taxation and Customs Union, it was concluded that fiscal devaluation can have a positive effect on employment, GDP and net exports. The same study stated that unilateral implementation of the policy is a viable option for a country wishing to expand its GDP. The study also found that the policy of course has far more benefit to an individual nation if it is not implemented simultaneously by multiple nations. However, the study concludes that when the goal of the policy is to stimulate the economy of the European Union as a whole, broad implementation is considered the most attractive method. The positive effects garnered by this policy in any type of implementation are found to be rather small, and temporary, but nonetheless can help. (Bettendorf et al., 2013)

Chapter 6 - Conclusion

The European Union was created with noble intentions. In the sense of the European Union being created to stop wars between its nations, it has been a success. Furthermore, the introduction of the euro as the single currency for member nations was seemingly intended to bring about stability and increase welfare for the euro zone as a whole. However, the introduction of the euro as a single currency also meant that countries with sovereign debt issues would no longer be able to utilize monetization and devaluation to avoid defaulting on their obligations during recessionary times.

Countries that have chosen to become part of the euro zone have essentially forfeited their ability to take the usual and necessary steps to overcome, or avoid, such crises. The crisis that has taken place has highlighted the fundamental flaws of the euro zone. The most obvious flaw is demonstrated by the struggle of managing very different countries and economies in the absence of the options to devalue or monetize debt. During the economic good times, weaker economies such as Greece were able to borrow at unprecedented low costs. Unfortunately, the savings were not efficiently employed to promote growth and development. These nations did little during the economic good times to suppress labor costs or to transform themselves into long-term competitors.

Germany is currently prospering because it maintained low unit labor costs and has an efficient work force; yet it has to help cover other member states such as Greece, which have been irresponsible and relatively inefficient. Germany has been helped greatly by its involvement with the euro. This is due to the fact that the weaker countries of the euro zone have kept the value of the euro relatively low, which suppresses the costs of German exports in non-euro nations, making German products cheaper relative to those of non-European countries.

This phenomenon would not take place if Germany were not part of the euro zone. This advantage, along with low unit labor costs, and the efficiency of the labor force, has allowed the German economy to thrive while their neighbors struggle.

The crisis is very much unresolved. Staggering unemployment numbers continue in many of the PIIGS countries. Importantly, the extremely high youth unemployment numbers in Greece and Spain have caused very real and serious concerns of a “lost generation”. Greece and other bailed-out nations will likely face very tough times for many years to come as they suffer from the process of debt reduction through austerity. The European Union is also experiencing great division among its countries. The prosperous economies, such as Germany, are increasingly angry about having to cover for their failing neighbors. In addition to the German dislike of having to pay the price of irresponsibility for the troubled economies, the populations of the struggling economies continue to show resentment from being forced into austerity and from German unwillingness to aid its euro-zone neighbors by stimulating the German economy. A currency union simply cannot survive if its members are divided and pursue different economic and regulatory policies. In order for the euro to survive long term, member nations will have to become more integrated, and must take steps to balance competitiveness amongst themselves. The euro-zone nations must aim to correct the structural imbalances within the common currency area by improving the coordination of financial, economic, and social policies. If the member countries are unwilling to take these steps, then a euro-zone breakup will likely occur in the future and the countries will resort to separate currencies.

Bibliography

- AMECO Database. (2013). The European Commission Annual macro-economic database. Retrieved July/27, 2013, from http://ec.europa.eu/economy_finance/db_indicators/ameco/zipped_en.htm
- Antzoulatos, A. A. (2012). Policy responses to the european debt crisis treating the "symptoms" or the "disease"? *Panoeconomicus*, 59(5), 529-552. Retrieved from <http://search.proquest.com.er.lib.k-state.edu/docview/1346716961?accountid=11789>
- Almeida, H. (2013). *Portuguese return to farming to counter unemployment, austerity*. Bloomberg.
- Baltatescu, I. (2013). *Eurozone public debt problem: An analysis from the perspective of the institutions and policies*. Romania: Institute for World Economy.
- Beckfield J. The End of Equality in Europe?. *Current History* [serial online]. March 2013;112(752):94-99
- Bettendorf, L., Baldini, M., Magnani, R., Suni, P., Valkonen, T., Davoine, T., et al. (2013). *Study on the impacts of fiscal devaluation* (Taxation Paper No. WP36-2013). The Hague, the Netherlands: European Commission.
- Bruton, B. (2013, 25 August). 'Our generation is a lost cause':Spain's youth struggle to chart a life amid economic crisis. *Nbc*,
- Cukurcayir, S., and Tezcan, K. (2013). Investigations on the euro area public debt crisis: The case of piigs. *European Scientific Journal*, (1), 308-316.
- Deen, M. (2013, 21 March). Spain's labor costs decline to below germany's, OECD index shows. *Bloomberg*
- European Central Bank (2013). Harmonized long-term interest rates for convergence assessment purposes, 11.15. Retrieved from European Central Bank database.
- European economic community*. (2012). Retrieved July/8, 2013, from <http://www.infoplease.com/encyclopedia/history/european-economic-community.html>
- European Union. (2013). Retrieved July/9, 2013, from http://europa.eu/index_en.htm
- Eurostat (2013). Second Estimate for the second quarter of 2013. *Eurostat news release, euro indicators 130/2013*. Retrieved from http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-04092013-BP/EN/2-04092013-BP-EN.PDF

- Eurostat 2 (2013). General government deficit/surplus. Retrieved from the eurostat database.
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00127>
- Eurostat 3 (2013). Balance of the current account % of GDP. Retrieved from the eurostat database.
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&language=en&pcode=tec00043>
- Eurostat 4 (2013). Unemployment rate by sex and age groups – quarterly average, %. Retrieved from the eurostat database.
<http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>
- The history of the european union.* (2013). Retrieved July/3, 2013, from http://europa.eu/about-eu/eu-history/index_en.htm
- Freeman, R. (2008). *Labour productivity indicators comparison of two OECD databases productivity differentials & the balassa-samuelsion effect* Organisation for Economic Co-Operation and Development.
- Giannias, D. A., and Sfakianaki, E. (2013). REGIONAL AND ENVIRONMENTAL CLASSIFICATIONS OF THE 27 EU COUNTRIES. *The Journal of Developing Areas*, 47(2), 139-157. Retrieved from <http://search.proquest.com.er.lib.k-state.edu/docview/1348262881?accountid=11789>
- Horváthová, L., Horváth, J., Gazda, V., and Kubák, M. (2012). Fiscal decentralization and public debt in the european union. *Lex Localis*, 10(3), 265-276. Retrieved from <http://search.proquest.com.er.lib.k-state.edu/docview/1034610824?accountid=11789>
- Kanter, J., and Castle, S. (2013, 11 March). Barroso urges europe to keep cutting debt. *New York Times*,
- Lachman D. LESSONS FROM EUROPE'S DEBT CRISIS FOR THE UNITED STATES. *CATO Journal* [serial online]. Summer2013 2013;33(2):233-243
- Lebrun, I., and Perez, E. (2011). *Real unit labor costs differentials in EMU: How big, how benign and how reversible?* (Working Paper No. WP/11/109) International Monetary Fund.
- Mead, N., and Blight, G. (2013). *Eurozone crisis: Are the years of pain over?* Retrieved August/4, 2013, from <http://www.theguardian.com/business/interactive/2012/oct/17/eurozone-crisis-interactive-timeline-three-years>

- OECD unit labour costs continue to fall in the second quarter of 2013.* (2013). Retrieved 13/August, 2013, from <http://www.oecd.org/std/labour-stats/systemofunitlabourcostoecd-updatedseptember2013.htm>
- PIIGS might fly.* (2012). Retrieved September/12, 2013, from <http://economia.icaew.com/business/piigs-might-fly>
- Rogers C, Vasilopoulou S. Making Sense of Greek Austerity. *Political Quarterly* [serial online]. October 2012;83(4):777-785
- Rossi, S. (2012). Financialization and monetary union in europe: The monetary - structural causes of the euro-area crisis. *Cambridge Journal of Regions, Economy and Society*,
- Rugy, V. (Spring/Summer 2013). Is austerity the answer to Europe's crisis? *Cato Journal*, 33(2), 245-251.
- Taylor, A. (2013). *Europe's youth unemployment crisis in one grim map.* Retrieved August/29, 2013, from <http://www.businessinsider.com/europes-youth-unemployment-crisis-in-one-grim-map-2013-10>
- Toussaint, E. (2011). *Core vs periphery in the EU.* Retrieved July/20, 2013, from <http://internationalviewpoint.org/spip.php?article2192>
- Treaty of maastricht on european union.* (2010). Retrieved July/19, 2013, from http://europa.eu/legislation_summaries/institutional_affairs/treaties/treaties_maastricht_en.htm
- A very short history of the crisis.(2011). *The Economist* , August 18, 2013.
- Weisenthal, J. (2011). *This is the chart that makes germans seethe with anger at the idea of bailouts.* Retrieved September/18, 2013, from <http://www.businessinsider.com/core-unit-labor-costs-in-germany-2011-11>
- What wage inflation looks like.(2011). *The Economist* , August 22, 2013.
- Whelan, K. (2013). *Sovereign default and the euro* (Working Paper No. WP13/09). University College Dublin: UCD CENTRE FOR ECONOMIC RESEARCH.
- Wilde, R. (2013). *History of the european union.* Retrieved July/9, 2013, from http://europeanhistory.about.com/od/governmentandlaw/a/europeanunionhist_2.htm